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Article Title: USING MULTIMODAL ANALYSIS TO UNRAVEL
A 'SILENT' CHILD'S LEARNING

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Using multimodal analysis to unravel a 'silent' child's learning

Introduction

Although the English Foundation Stage Curriculum for children aged 3 to 5 years recognises that children learn through talk and play and through 'movement and all their senses' (DfEE & QCA, 2000: 20), there is comparatively little theoretical understanding of how children learn through diverse 'modes', such as body movement, facial expression, gaze, the manipulation of objects and talk, and there is little practical guidance on how practitioners can support children's 'multimodal' learning. Indeed, mounting research evidence indicates that since the introduction of a national early years curriculum and early years assessment schemes, practitioners have felt under increased pressure to focus on children's verbal skills in order to provide evidence of children's literacy and numeracy skills in preparation for primary education (see Flewitt, 2005a & 2005b).

In the context of these changes, this article relates the story of Tallulah, a 3-year-old girl with a late July birthday, who, like many summer-born children in England, spent one year in an early years setting before moving to primary school aged just 4 years. The article draws on data collected as part of an ESRC-funded study that explored the different 'modes' young children use to make and express meaning in the different social settings of home and a preschool playgroup (Flewitt, 2003). Examples are given of how Tallulah communicated her understandings at home through skilful combinations of talk, gaze direction, body movement and facial expression, and how others in the home supported Tallulah's learning. These are then compared with examples of how Tallulah communicated in playgroup, primarily by combining the silent modes of gaze, body movement and facial expression. The article identifies how the different social settings of home and preschool impacted upon her choices and uses of different expressive modes.

What is multimodal learning?

A multimodal perspective looks beyond a focus on learning through language by giving new insights into how young children and the adults they interact with explore and express meaning through combinations of different modes, such as gaze, facial expression, body movements/gestures, manipulating objects and talk. This approach sheds new light on how young children exploit the potentials of different modes to express meaning in ways that are not constrained by the rules of language.

A growing body of multimodal research has begun to investigate how children make and express meaning through combinations of modes, such as pictures, gestures and gaze (Lancaster, 2001; Flewitt, 2003, 2005a) and written texts, diagrams, gesture and words (Kress, 1997, Kress et al, 2001). Research has also begun to reveal how education practitioners create different learning opportunities by using diverse multimodal resources (eg Palframan, 2004; Kress et al, 2005) and by opening and closing different interactive spaces in a range of communicative modes (Payler, 2005). This research ties in with studies investigating the learning potentials of multi-sensory environments (eg Windebank, 2005).

Outline of study methodology

The study reported here adopted a naturalistic, longitudinal approach using ethnographic video case studies of individual children to portray the detail of their communicative and learning experiences at home and in an early years setting, and to explore different participants' interpretations of the events observed. The setting of a rural playgroup was chosen for the site of study, as playgroups have become a

permanent and significant feature of Early Years provision, catering for 52% of 3-4 year olds in 2000 (National Early Years Network, 2002).

The selection of child participants was purposive: four 3-year-old children, 2 boys and 2 girls, with a range of Spring, Summer and Autumn birthdays, 2 considered by staff to be 'talkative' and 2 'quiet'. During initial consultation with the setting, staff mentioned that they sometimes had children who remained silent in the setting, and that they felt they needed more understanding of this phenomenon. This article reports solely on the observations of one 'silent' girl.

Video observations were used to record how the children used a range of resources to mediate through words, noises, gaze, facial gesture and body movement. This approach reflected the belief that the creation of symbolic meanings is highly social and multimodal, and that focussing exclusively on audio recordings of the children's speech could create a false impression of the children as communicatively limited and fail to paint a full picture of their communicative and learning strategies (Flewitt, 2006). Documentation, field notes, a reflective diary, semi-structured and unstructured interviews with staff and parents complemented these observational forms of data collection. Respondent validation was used during data analysis.

Throughout the study, high priority was given to ethical considerations, to the construction of trusting relationships with participants of all ages and to the protection of their anonymity. Every effort was made to construct with participants a negotiated, robust ethical framework and to ensure that these ethical principles were applied throughout all stages of the research process (Flewitt, 2005c).

Different perspectives on Tallulah

At the beginning of the study, Tallulah's mother described her as a 'quite outgoing' child who loved looking at books and being read to, chatted a lot and could be 'quite stubborn' but was 'not argumentative'. As the study progressed, the mother noted that Tallulah was 'becoming more articulate in her conversation', that 'her vocabulary's becoming more extensive', that she had started to use words and expressions that she had learnt elsewhere, including playgroup terminology and that her self-directed talk during imaginary play had become increasingly complex.

By contrast, staff at the beginning of the study described Tallulah as a 'shy', 'quiet', 'reserved' and 'lovely' girl, who was 'very bright' but was largely silent and expressed herself mostly through her eyes and through actions. They noted that she tended to engage in solitary play, with 'very simple' talk, which was not 'comprehensive' or 'complex'. By the beginning of her third term in playgroup, staff reported that Tallulah had begun to talk a little more, mostly in response to her key worker or other adults she knew well, but she did not initiate talk. Staff members had begun to disagree about the reasons for Tallulah's comparative silence: her key worker felt she was 'just shy' and needed more time to adjust to the setting, whilst others felt that she spoke 'on her own terms'.

Staff noted that Tallulah preferred tabletop activities, and rarely ventured into more 'social' areas, such as the Home Corner, Mat or Creative Space, and then only when no one else was there. Staff had tried directing her to a wider range of activities, but had decided this was counter-productive:

Playgroup Leader: free play is noisy and you have to be confident enough to stand your ground and make your opinions known

Part-time helper: and that's not her is it?
 Key worker: no she's safer to stay in an activity isn't she?
 Playgroup Leader: yeh she'll do table-top ... she'll do safe things

By the end of her one and only year in playgroup, staff were very concerned about how Tallulah would adjust to primary school, and conveyed their concerns to the parents and primary school. Tallulah's parents requested a delayed, January start to primary school, to give her more time in playgroup to gain confidence. However, the school was putting pressure on all parents for single entry in September, because a double intake was 'too disruptive for the teacher' (mother paraphrasing the headmaster's words), and because the school was over-subscribed and could not guarantee a place later in the year. Feeling they had no real choice, and against their own views and playgroup recommendations, the parents eventually but reluctantly agreed to send Tallulah to school in September. Feeling the impending inevitability of school entry assessment, playgroup staff focussed on increasing Tallulah's oral expression, but with few tangible results.

The video observations confirmed the accuracy of these two very different perspectives of Tallulah. There were indeed profound differences in her communicative behaviours and strategies in the two different settings. How can video ethnography and multimodal research help to give insights into this description of Tallulah's communicative behaviour in the two different settings of home and playgroup?

Tallulah's communicative behaviour at home

At home, although softly spoken, Tallulah was socially and communicatively confident and considerate. She frequently initiated talk and interrupted others' conversations to make relevant points and add information, listening closely and displaying confidence not only in her ability to contribute to those conversations but also in her ability to make herself understood in the home environment. Tallulah often used talk to convey precise meanings and was confident in her understandings of how domestic life was organised. The video data confirmed that she occasionally used gaze and body movement instead of and in addition to talk, but primarily used her command of language to convey meanings.

Tallulah and her brother often played together with the mother with or nearby them, for example, chatting as they played at the kitchen table while their mother was ironing, doing the washing or preparing food. In these instances, Tallulah initiated many verbal exchanges, as below:

Extract 1

Tallulah, her brother and mother are sitting at the kitchen table. Tallulah is cutting out cards, Gary is colouring in, the mother is folding laundry)

- 1 Tallulah: *(gaze to card, quietly)* I don't want to do any colouring
- 2 Mother: you don't want to do colouring?
- 3 Tallulah: I didn't want to but I do now
- 4 Mother: ok why don't you get a colouring book from the front room
then you can do some colouring as well
- 5 Tallulah: *(standing up in high chair)* my rabbit colouring book *(gaze to mother)* my rabbit colouring book
- 6 Mother: shall I go and get it for you?
- 7 Tallulah: I want the crayons *(tries to climb down from chair)*
- 8 Mother: you have the crayons and (your brother) can have the pens
- 9 Tallulah: *(tries again to climb down, gaze to mother)*

- 10 Mother: shall I see if I can find it for you (*standing up*) you stay there (*leaves room*)
- 11 Tallulah: (*to brother, placing her hand on the pens*) now those are yours (*reaches for crayons and puts them next to herself*) and these are mine (*continue colouring in silence*)

The video data showed that in addition to her sensitive and responsive scaffolding of Tallulah's talk, the mother interpreted Tallulah's gaze, facial expression and movement as meaningful signs. For example, in Line 6 above, the mother interpreted Tallulah's fixed gaze in Line 5 as a signal for her to help by fetching the colouring book, and this sequence is repeated in Lines 9 and 10.

On many occasions at home, Tallulah, her mother and brother directed their attention simultaneously to a shared activity, including many enjoyable book-readings. In Extract 2, the mother 'livened up' a favourite story by replacing the names of the book characters with the names of family members (L1), with Tallulah joining in gleefully to correct her (L2). Tallulah always displayed sharp listening skills and good recall of book characters' names (L1, L2). This was a familiar way of reading, where the mother used pauses and gaze direction to encourage Tallulah to finish rhyming sentences (L3, L5):

Extract 2

Tallulah and her mother are sitting in the garden with her brother on the mother's lap, all looking at an illustrated book held partly by the mother and partly by Tallulah

- 1 Mum: (*reading from book*) 'and when daddy '[kicks the dustbin it really makes a din
- 2 Tallulah: [(*laughs*) no (*gaze to Mum*) Bernard
- 3 Mum: (*laughs*) oh it's Bernard 'when Bernard kicks the dustbin it really makes a din but the best of all is when they all' (*gaze to Tallulah*)
- 4 Tallulah: they (*gaze to book*) all join in
- 5 Mum: (*reading*) 'when daddy's in his study and his thoughts are very deep we come in and help him concentrate we go' (*gaze to Tallulah*)
- 6 Tallulah: beep beep beep beep
- 7 Mum: that's right (*continues reading*)

These extracts illustrate how at home, the mother's style of interacting created comfortable, unpressured spaces where Tallulah could express herself in diverse modes – often through talk, sometimes through gaze or body movement, and frequently through 'orchestrations' of diverse modes (Kress et al, 2005). The mother used finely-tuned support mechanisms to prompt Tallulah to express herself through talk and to continue talking, sometimes by referring to past, shared experiences as they resumed long conversations that had developed over time. She propped up Tallulah's talk by understanding the idiosyncrasies of her speech, and repeated Tallulah's unclear utterances. These strategies resulted in many lengthy and successfully concluded exchanges, with lengthy and precise utterances from Tallulah, where she expressed her understandings confidently.

Tallulah's communicative behaviour at playgroup

The home observations contrasted sharply with the playgroup staff's perceptions of Tallulah as a silent child who rarely interacted with others. Analysis of the playgroup

video data showed that although Tallulah was indeed largely silent in playgroup, she did attempt to be actively involved in the setting by drawing on a range of mostly silent communicative modes. However, in the busy preschool environment these subtle signs often either went unnoticed, or if noticed, did not coincide with interactional spaces for her to express herself as other children jostled for attention.

For example, in Extract 3, Tallulah was sitting at the Milk Table with some similar-aged and some older children. Tallulah's key worker joined them, sitting next to Tallulah and attempting to include her in the talk by directing questions at her. Although Tallulah appeared to be listening to the general talk and directed her gaze to children as they spoke, she made no verbal responses to Sarah's prompts. However, there was a pattern in her uses of body movement and gaze direction that Sarah interpreted as conveying meaning. For example, in response to Sarah's questions (L10, 23), Tallulah averted her gaze and shrugged her shoulder (L11, 25), which Sarah accepted as a response that indicated she was unsure what to say, so she began to prompt Tallulah further (L12, 14, 16). However, other children did not wait for Tallulah to respond (L17, 24, 27), and as Sarah turned her attention to their responses, Tallulah turned further towards silence:

Extract 3

- 1 Sarah: what did you all have for your breakfast this morning? (*gaze around table, then fixed gaze on John*)
- 2 John: (*leaning over table towards Sarah*) um scrambled eggs
- 3 Sarah: (*gaze to John*) scrambled eggs?
- 4 John: (*gaze to Sarah, nods*) yeh
- 5 Sarah: (*gaze to Joanna*) what did you have Joanna?
- 6 Joanna: (*gaze to John*) errr[m]
- 7 Tomas: (*gaze to Sarah*) [and I had scrambled eggs too
- 8 Sarah: (*glance to Tomas*) did you?
- 9 Joanna: (*gaze to Sarah*) and I had toast on on um '/// on lemon curd
- 10 Sarah: (*gaze to Joanna*) lemon curd on toast (*gaze to Tallulah*) what did you have for breakfast Tallulah?
- 11 Tallulah: (*gaze from Joanna to Sarah, shrugs right shoulder and averts gaze, pulls sad face*)
- 12 Sarah: (*gaze from Tallulah to John, back to Tallulah*) let me see if I can guess (*turns head to one side to try and make eye contact with Tallulah*)
- 13 Tallulah: (*averts gaze, then fixes gaze on space at far end of table*)
- 14 Sarah: (*head tilted, gaze fixed on Tallulah*) did you have weetabix?
- 15 Tallulah: (*shrugs right shoulder, gaze fixed on space at far end of table, but removes sad look from face*)
- 16 Sarah: (*gaze to Tallulah*) did you have ...[toast?
- 17 John: (*pointing and gaze to Sarah*) [I ad weetabix
- 18 Tallulah: (*shrugs right shoulder, gaze to John*)
- 19 Sarah: (*gaze to John*) you just said you had scrambled egg
- 20 John: (*gaze to Sarah. leaning over table*) no I ad weetabix then scrambled eggs
- 21 Sarah: did you?
- 22 John: yeh
- 23 Sarah: I had cornflakes today (*gaze from John to Tallulah as speaks*) [what did you have Tallulah?
- 24 John: [did you? (*to Sarah*)
- 25 Tallulah: [(*shrugs right shoulder, drinks from cup*)
- 26 Sarah: (*gaze to John*) yeh I like cornflakes
- 27 John: and guess what I ad cornflakes

- 28 Sarah: *(gaze to John, disbelieving expression)* did you?
 29 Tomas: *(leaning across table, gaze to Sarah)* and I ad cornflakes
 30 Sarah: *(gaze away from table to give child instructions on passing biscuits around)*

Over time, staff who knew Tallulah came to associate specific meanings with her patterned uses of gaze direction and body movement. However, not everyone was able or prepared to interpret these signs, and increasingly fewer children attempted to include her in their interactions. Similarly, volunteer parent helpers, who knew her less well, made increasingly fewer attempts to interact with her.

Tallulah's key worker, Sarah, tried hard to gain her confidence by spending more time with her, accepting Tallulah's gaze, facial expression and body movement as meaningful responses to her oral prompts, and allowing Tallulah to interpret activities in her own way, shifting some control from the adult to the child. Although Tallulah talked much less than at home and relied heavily on silent multi-modal strategies to communicate with Sarah, Sarah's developing knowledge of Tallulah's interests enabled her to act as a prompt and prop to her talk.

Extract 4 shows Sarah and Tallulah seated at a busy Playdoh table during Tallulah's final term in playgroup. When she first joined the table, Tallulah stood back a little and watched the other children playing with the doh. Sarah joined her and they interacted in an uninterrupted dyad for several minutes, with their attention jointly focussed on selecting and cutting shapes. More than half of Tallulah's responses to Sarah's prompts were expressed in body movement and gaze: agreeing by nodding (L3, L5) and carrying out Sarah's suggestions (L9, L11, L13, L19). However, within the intimacy of their shared engagement in the task, Tallulah began to use the mode of talk to introduce new elements to the conversation (L1, L3) and to answer some of Sarah's questions (L3, L5, L7, L17). Tallulah and Sarah's mutual trust and understanding had built up over months, and by now Sarah confidently interpreted the meanings of Tallulah's gaze and facial expression and was able to prompt Tallulah's talk through detailed knowledge of her immediate and extended family, leading to dyadic exchanges that resembled Tallulah's interactions at home and provided a supportive platform for Tallulah to express herself in diverse modes.

Extract 5

(Sarah and Tallulah have been sorting through the shape box, selecting cut-out shapes, return to sit at table)

- 1 Tallulah: *(glance to Sarah)* Gary likes twains *(gaze to Sarah)* Gary likes lots of trains *(gaze to train shape)* Thomases
- 2 Sarah: he does doesn' he?
- 3 Tallulah: *(gaze to doh, nods, shaping doh)* yeh he likes twains as well Gary likes twains an balls
- 4 Sarah: *(gaze to Tallulah's doh)* does he like balls as well?
- 5 Tallulah: *(emphatic nod, still shaping doh)* yep
- 6 Sarah: do you play ball with Gary?
- 7 Tallulah: sometimes
- 8 Sarah: sometimes *(points to cutter Tallulah trying to extract from the doh)* push it out from this side Tallulah
- 9 Tallulah: *(pushes doh as shown)*
- 10 Sarah: that's it *(watching Tallulah's hands struggling to get shape out of the cutter)* d'you want me to get it out for you?
- 11 Tallulah: *(succeeds in pushing train from mould)*
- 12 Sarah: there it is there's your train *(takes small container from table and offers to Tallulah)* shall we put it in here?

- 13 Tallulah: (*Tallulah puts shape in container*)
 14 Sarah: shall we put your train in there? shall I see if I can make a shape for you?
 15 Tallulah: (*Tallulah arranging train in container*)
 16 Sarah: what shall I make Tallulah? (*waits for Tallulah to respond*)
 17 Tallulah: (*reaches to shapes, selects shape, passes to Sarah*) a but a butterfly
 18 Sarah: I'll need a bigger piece of playdoh won't I? (*takes more doh*)
 19 Tallulah: (*rolls up sleeves, selects another shape and takes more doh*)

Although Tallulah's tendency to rely on gaze and body movement was viewed by staff to be exceptional, it must be stressed that silent modes of interaction between children and adults and between peers were very common, particularly at certain playgroup activities. Within the early years setting, adults also often used exaggerated body movements in place of speech. For example they used gaze direction to indicate who an utterance was addressed to, fixed gaze to exercise control over dubious behaviour and gaze aversion to imply closure of exchanges.

During her time in playgroup, Tallulah tended to opt either for child-led activities, where physical spaces were clearly defined and where she did not need to interact with adults or peers in order to take part in an activity, or for Crafts, which in this setting were usually adult-directed, and where most interaction between adults and children and between children was negotiated through silent combinations of gaze, facial expression and body movement. By using only a limited selection of playgroup activities, Tallulah thereby managed to engineer and control communicative environments where her silence was less at variance with the communicative behaviours of other children, and where, if in contact with adults, she was most likely to receive the kind of dyadic communicative support that she was familiar with at home.

Discussion

Although the Foundation Stage Curriculum proposes a holistic, multi-sensory view of learning, this study revealed that staff felt pressured to prepare children for school entry and subsequent assessment, resulting in an emphasis on developing children's verbal expressions of meaning. This was manifested particularly in adult-led activities with pre-planned learning outcomes, such as the low ambiguity teaching of colours, letters, numbers and shapes. During consultation and joint video viewings, staff reflected on how this change had crept into their practice, largely because they did not want to 'let children down' at school entry. They felt the pressures to focus on verbal skills were particularly marked for Summer-born children who would only spend one year at playgroup.

However, the ethnographic video data and multimodal analysis used in this study highlighted the complexity and often subtle interplay of verbal and silent modes that both adults and children used in the early years setting to construct and convey meanings. Within the institutional context of the early years setting, there were clearly identifiable patterns in adult and child uses of silent multimodal strategies, and Tallulah's choices of more silent communicative modes in playgroup could be seen merely to reflect the less verbal range of this multimodal spectrum.

The findings of this study imply that Tallulah's 'absence' of talk in the early years setting did not imply an absence of learning. Indeed, very rich observations were made of Tallulah in playgroup jointly constructing meanings with adults and with peers through combinations of silent modes. These incidents increased over time as

Tallulah became more settled in the setting and also as adults in the setting came to interpret her silent communicative modes as carrying specific meanings and were more able to prompt her hesitant uses of talk. In short, the more knowledgeable about Tallulah's life and interests the adults were, the less controlling they were about the activities she engaged in and the more sensitive and responsive they were to her often silent expressions, the more likely they were to create opportunities for her to extend her understandings through combinations of silent and verbal modes.

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ⁱ [indicates simultaneous speech

ⁱⁱ // indicates sudden change of tone